

**WHAT IS CLAIMED IS:**

- 1     1.     A method of purifying used oil comprising the steps of:  
2               providing a predetermined quantity of used oil;  
3               contacting the used oil with a predetermined quantity of a base;  
4               contacting the used oil with a predetermined quantity of a phase transfer  
5     catalyst;  
6               mixing the composition comprising used oil, base, and phase transfer catalyst for  
7     a predetermined period of time;  
8               heating the composition to a predetermined temperature;  
9               distilling the resultant mixture;  
10              mixing the resulting distillate with a solvent thereby dissolving the contaminants  
11     from the petroleum distillate into the solvent;  
12              separating the solvent having the contaminants dissolved therein from the  
13     petroleum distillate;  
14              subsequently separating the contaminants from the solvent and recovering the  
15     solvent;  
16              recovering any remaining solvent from the petroleum distillate; and  
17              reusing the recovered solvent to extract contaminants from subsequent  
18     quantities of petroleum distillate.
- 1     2.     The method of Claim 1 wherein the distilling step removes water and catalyst and  
2     produces base lubricating oil from the mixture.
- 1     3.     The method of Claim 1 wherein the distilling step produces at least two base lubricating  
2     oil cuts, and wherein the subsequent mixing step is carried out by separately mixing each of the  
3     base lubricating oil cuts with the solvent.